

WHAT IS CLAIMED IS:

1 1. A method for providing telephone application services using a
2 managed VOIP network, where voice data transmitted over the network is codified in a
3 native VOIP format, said method comprising the acts of:
4 providing a plurality of channels for handling incoming
5 telephone calls and a shared memory, accessible to all channels, storing response voice data
6 in native VOIP format;
7 receiving a first incoming telephone call, including a first
8 plurality of received IP packets encapsulating voice data in native format, from a service
9 requestor over the managed VOIP network;
10 setting up a connection between the incoming telephone call
11 and a first one of said channels for handling the incoming telephone call;
12 identifying a requested service;
13 accessing response voice data, stored in the native VOIP format
14 in said shared memory, responsive to the requested service;
15 encapsulating said response voice data in a second plurality of
16 response IP packets; and

17 sending said second plurality of response IP packets over said
18 managed VOIP network to the service requestor.

1 2. The method of claim 1 where said act of identifying a requested
2 service comprises the acts of:
3 processing voice data in native format, extracted from said
4 received IP packets, to identify a requested service;
5 extracting voice data from said received IP packets; and
6 performing speech analysis on extracted voice data to identify
7 the service requested.

1 3. The method of claim 1 where said act of identifying a requested
2 service comprises the acts of:
3 identifying a DTMF signal;

4 determining a requested service associated with an identified
5 DTMF signal;

1 4. The method of claim 1 where said act of accessing response voice data
2 further comprising the acts of:
3 determining whether said requested service requires text to
4 speech (TTS) conversion;
5 if so invoking a TTS module that converts text to non-native
6 voice data not in native VOIP format;
7 converting said non-native voice data to native VOIP format.

1 5. The method of claim 1 where said act of accessing response voice data
2 further comprising the acts of:
3 determining whether received voice data will be processed by
4 a speech recognition module;
5 if so, converting said native VOIP format voice data to non-
6 native format voice data prior to speech recognition.

1 6. The method of claim 1 further comprising the act of:
2 extracting calling ID line data from VOIP call signaling
3 protocol to obtain location information about the service requestor;
4 accessing customized voice data, in native VOIP format, from
5 said shared memory;
6 encapsulating said customized voice data in customized IP
7 packets; and
8 sending said customized IP packets to the service requestor
9 over the managed VoIP network.

1 7. The method of claim 1 further comprising the act of:
2 providing an I/O thread for each channel for managing all I/O, with I/O thread
3 performing the following acts:

4 while playing a message, giving higher priority
5 to data transmission than to data reception; and
6 while recording a message, giving higher
7 priority to data reception than to data transmission.

1 8. The method of claim 1 further comprising the acts of:
2 providing a plurality of message access servers for controlling
3 access to shared memory; and
4 utilizing a service requestor ID to access a user database
5 holding an association between the ID and a home MAS for accessing response data for the
6 service requestor.

1 9. In integrated VOIP network comprising:
2 a plurality of voice processing modules for processing requests without
3 forwarding voice data to an end destination.